COMPLETE LISTING OF CLAIMS

1. (CURRENTLY AMENDED) A composition for delivery of an antigen for stimulation of an immune response when administered to a host, the composition comprising:

an antigen, a polyoxyalkylene block copolymer and an aqueous liquid;

the polyoxyalkylene block copolymer being biocompatible, not having toxic or injurious effects on biological function in the host when the composition is administered;

wherein, the composition is formulated with relative proportions of the liquid and the copolymer so that the copolymer interacts with the liquid to impart reverse thermal viscosity behavior to the composition, so that the viscosity of the composition increases when the temperature of the composition increases over some temperature range within ~~a range of from~~ 1 °C to 37 °C; and

wherein, the composition further comprises an additive enhancing the immune response when the composition is administered to the host, the additive being an adjuvant other than alum; and;

wherein, the liquid comprises from 60 weight percent to 85 weight percent of the composition, the antigen comprises from 0.0001 weight percent to 5 weight percent of the composition, the copolymer comprises from 5 weight percent to 33 weight percent of the composition and the additive comprises from 0.01 weight percent to 10.0 weight percent of the composition.

2. (CANCELLED)

3. (CANCELLED)

4. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the composition is in the form of a flowable medium when the composition is at a first temperature in the temperature range and the composition is in a gel form when the composition is at a second temperature in the temperature range, the second temperature being higher than the first temperature.

5. (PREVIOUSLY AMENDED) The composition of Claim 4, wherein the first temperature is in a range of from 1 °C to 20 °C.

6. (PREVIOUSLY AMENDED) The composition of Claim 4, wherein the first temperature is in a range of from 1 °C to 20 °C and the second temperature is in a range of from 25° C to 37 °C.

7. (PREVIOUSLY AMENDED) The composition of Claim 4, wherein the copolymer is substantially all dissolved in the liquid when the composition is at the first temperature, and at least a portion of the copolymer comes out of solution in the liquid when the temperature of the composition is raised from the first temperature to the second temperature.

8. (CANCELLED)

9. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the polyoxyalkylene block copolymer comprises at least one block of a first polyoxyalkylene and at least one block of a second polyoxyalkylene.

10. (PREVIOUSLY AMENDED) The composition of Claim 9 wherein the first polyoxyalkylene is polyoxyethylene and the second polyoxyalkylene is polyoxypropylene.

11. (PREVIOUSLY AMENDED) The composition of Claim 10, wherein the polyoxyalkylene block copolymer has the formula:

$$HO(C_2H_4O)_b(C_3H_6O)_a(C_2H_4O)_bH$$

wherein a and each b are independently selected integers.

12. (PREVIOUSLY AMENDED) The composition of Claim 11, wherein the $(C_2H_4O)_b$ blocks together comprise at least 70 weight percent of the polyoxyalkylene block copolymer.

13. (PREVIOUSLY AMENDED) The composition of Claim 11 wherein a is between 15 and 80 and each b is independently between 50 and 150.

14. (PREVIOUSLY AMENDED) The composition of claim 10, wherein the polyoxyalkylene block copolymer has the formula:

$$H(OCH_2CH_2)_b(O\underset{}{\overset{\overset{CH_3}{|}}{C}}HCH_2)_a(OCH_2CH_2)_bOH$$

wherein a is 20 to 80 and each b is independently 15 to 60.

15. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is selected from the group consisting of bacteria, protozoa, fungus, hookworm, virus and combinations thereof.

16. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is selected from the group consisting of tetanus toxoid, diphtheria toxoid, a non-pathogenic mutant of tetanus toxoid, a non-pathogenic mutant of diphtheria toxoid and combinations thereof.

17. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from Bordatella pertussis.

18. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from influenza virus.

19. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from M. tuberculosis.

20. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen immunizes against a childhood illness.

21. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from rotavirus.

22. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is selected from the group consisting of a polysaccharide, a peptide mimetic of a polysaccharide, an antigen from Neisseria meningitiditis, an antigen from Streptococcus pneumoniae and combinations thereof.

23. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from Epstein-Barr virus.

24. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from Hepatitis C virus.

25. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from HIV.

26. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen comprises a molecule involved in a mammalian reproductive cycle.

27. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is HCG.

28. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is a tumor-specific antigen.

29. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is from a blood-borne pathogen.

30. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the antigen is a first antigen and the composition comprises a second antigen.

31. (PREVIOUSLY AMENDED) The composition of Claim 30, wherein the first antigen is selected from the group consisting of tetanus toxoid, a nonpathogenic mutant of tetanus toxoid and combinations thereof; and

the second antigen is selected from the group consisting of diphtheria toxoid, a nonpathogenic mutant of diphtheria toxoid and combinations thereof.

32. (CANCELLED)

33. (PREVIOUSLY AMENDED) The composition of claim 1, wherein the adjuvant comprises dimethyl dioctadecyl ammonium bromide (DDA).

34. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the adjuvant comprises a CpG motif.

35. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the adjuvant comprises a cytokine.

36. (PREVIOUSLY AMENDED) The composition of claim 1, wherein the adjuvant comprises chitosan material.

37. (PREVIOUSLY AMENDED) The composition of claim 36, wherein the adjuvant comprises N,O-carboxymethyl chitosan.

38. (CANCELLED) The composition of claim 1, wherein the liquid comprises from 60 weight percent to 85 weight percent of the composition, the antigen comprises from 0.0001 weight percent to 5 weight percent of the composition, the copolymer comprises from 5 weight percent to 33 weight percent of the composition and the additive comprises from 0.01 weight percent to 10.0 weight percent of the composition.

39. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the composition is in the form of disperse droplets in a mist.

40. (PREVIOUSLY AMENDED) The composition of Claim 39, wherein the mist is produced by a nebulizer.

41. (PREVIOUSLY AMENDED) The composition of Claim 1, wherein the composition is contained within a nebulizer actuatable to produce a mist comprising dispersed droplets of the composition.

42. (PREVIOUSLY AMENDED) The composition of Claim 40, wherein the nebulizer is a nasal nebulizer.

43. (PREVIOUSLY AMENDED) The composition of claim 1, wherein the composition is contained within an injection device that is actuatable to administer the composition to the host by injection.

44. (PREVIOUSLY AMENDED) A method of packaging and storing the composition of claim 5, comprising placing the composition in a container when the composition is in the form of a flowable medium and, after the placing, raising the temperature of the composition in the container to convert the composition to the gel form for storage, wherein the gel form in the container can be converted back to the form of a flowable medium for administration to the host by lowering the temperature of the composition in the container.

45-147 (CANCELLED)

148. (NEW) The method of Claim 1, wherein substantially all of the copolymer is dissolved in the liquid at some temperature within the temperature range.

149. (NEW) The method of Claim 1, wherein substantially all of the copolymer and the antigen are dissolved in the liquid at some temperature within the temperature range.